IN THE CLAIMS

1.-5. (canceled).

6. (currently amended) A blood treatment system, comprising:

a filter;

an arterial blood line connectable to a patient access and adapted to convey blood from ~~said~~ a patient access to [[a]] the filter;

the filter having a membrane with a blood side and a non-blood ~~waste fluid~~ side on opposite sides of the membrane of said filter;

a venous blood line connectable to said patient access and adapted to convey blood from said filter to patient access; and

a pump configured to convey blood through said arterial blood line, a sensor configured to sense pressure in said waste fluid side of said filter, and a controller connected to receive a pressure signal from said sensor and to control a rate of flow of said pump;

said controller being configured to maintain a constant pressure in said arterial blood line by regulating a speed of said pump in response to said pressure signal.

7. (original) A system as in claim 6, wherein said controller is a microcomputer programmed to compare said pressure signal with a predetermined value.

8. (original) A system as in claim 7, wherein said predetermined value corresponds to a positive pressure.